

CASE STUDY

Grey Iron Ladles

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Overview

- ▼ **Application:**
Ladle Refractory, dam and pour spout
- ▼ **Substrate:**
Pre-cast Refractory

Application of Emisshield

Emisshield was applied to the inside of the ladle refractory and throughout the dam and pour spout. The application was completed in January 2018



Emisshield Benefits

The uncoated control ladle ran for 110 tons of iron, respectively, before being removed from service. The coated ladle was removed from service after 160 tons of iron poured but could have gone longer in tons poured. This results in 45-55+% increase in ladle refractory life. Additional realized benefits are resistance to slag adherence/chemical attack, and a reduction in thermal shock, all of which are causes for removal of a ladle from production.

Once removed from service, the ladle dam at the bottom of the ladle was observed to be unobstructed and non-eroded by mechanical abrasion which lead to higher quality castings throughout the service life of the ladle.

In the next coating the ladle refractory with Emisshield resulted in a 75% increase in refractory and service life with a significant reduction in cost to the foundry. Since all this testing was done with a non-sintered Emisshield product by utilizing a sintered product a >100% improvement in service life of the refractory in molten contact can be achieved.



45-55+% Increase
In Ladle Refractory Life



75% increase
in Refractory and Sservice Life



Reduction in Thermal Shock